STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 151485

TO: Jana Hines
Location: REM-3C18
Art Unit: 1645
Monday, May 02, 2005

Case Serial Number: ~~09/037068~~ 9/937,068

From: Mary Jane Ruhl
Location: Biotech-Chem Library
Remsen 1-A-62
Phone: 571-272-2524

maryjane.ruhl@uspto.gov

Search Notes

Examiner Hines,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl
Technical Information Specialist
STIC
Remsen 1-A-62
Ext. 22524

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=> d his ful

     FILE 'REGISTRY' ENTERED AT 11:03:58 ON 02 MAY 2005
                  E POLYORNITHINE/CN
L1             2 SEA ABB=ON  POLYORNITHINE/CN
                  E METHYL GLUCAMINE/CN
                  E TPGS/CN
L2             1 SEA ABB=ON  TPGS/CN
                  E DEOXYCHOLIC ACID/CN
L3             1 SEA ABB=ON  "DEOXYCHOLIC ACID"/CN
                  E DIMETHYL-B-CYCLODEXTRIN/CN
L4             1 SEA ABB=ON  DIMETHYL-B-CYCLODEXTRIN/CN
                  E POLY L-LACTIDE/CN
                  E POLY L LACTIDE/CN

     FILE 'HCAPLUS' ENTERED AT 11:05:13 ON 02 MAY 2005
L5           205 SEA ABB=ON  ?DRUG?(W)?DELIVER? AND ?POLYMER?(W)(?MICROCAPSUL?
                  OR ?LIPOSOM?)
L6          1639 SEA ABB=ON  ?POLYMER?(W)(?MICROCAPSUL? OR ?LIPOSOM?)
L7            11 SEA ABB=ON  L6 AND (IMMUNOSTIM? OR ?IMMUN?(3A)?RESPONS?)
L8            23 SEA ABB=ON  L6 AND (L1 OR ?POLYORNITHINE? OR ?VITAMIN? OR
                  ?CATION?(3A)(?COPOLYMER? OR ?SURFACT?))
L9             1 SEA ABB=ON  L6 AND (?CLATHRATE? OR ?COMPLEX?(W)?AGENT? OR
                  ?CETRIMIDES? OR S(W)?LAYER?(W)?PROTEIN? OR METHYL?(W)?GLUCAMIN?
                  )
L10           11 SEA ABB=ON  L6 AND (?MUCOUS? OR ?MUCOSAL? OR ?INTRANASAL?)

     FILE 'REGISTRY' ENTERED AT 11:09:26 ON 02 MAY 2005
                  E POLYACRYLIC ACID/CN

     FILE 'HCAPLUS' ENTERED AT 11:10:02 ON 02 MAY 2005
L11           16 SEA ABB=ON  L6 AND (?POLYACRYLIC?(W)?ACID?)
L12            0 SEA ABB=ON  L6 AND (L2 OR ?TPGS? OR A(W)?TOCOPHERYL?(W)?P
                  OLYETHYLEN?(W)?GLYCOL?(W)1000(W)?SUCCINATE?)
L13           91 SEA ABB=ON  L6 AND (?POSITIVE?(W)?CHARGE? OR ?MOLECULAR?(W)?WEI
                  GHT?)
L14            2 SEA ABB=ON  L13 AND (?FATTY?(W)?ACID? OR ?CYCLODEXTRIN?)
L15           55 SEA ABB=ON  L7 OR L8 OR L9 OR L10 OR L11 OR L14
L16            1 SEA ABB=ON  L15 AND ?MAMMAL?
L17           15 SEA ABB=ON  L15 AND (?VACCINE? OR ?BACTERIUM?)
L18            2 SEA ABB=ON  L15 AND (?POLYAMINO? OR ?WATER?(W)?SOLUBL?(W)?VITAM
                  IN?)
L19            1 SEA ABB=ON  L15 AND (L3 OR ?DEOXYCHOLIC?(W)?ACID? OR L4 OR
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L21           10 SEA ABB=ON  L20 AND (?IMMUNOSTIM? OR ?IMMUN?(W)?RESPONS?)  10 cits
                                                                  from CA Plus
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L22            6 SEA ABB=ON  L21
L23            5 DUP REMOV L22 (1 DUPLICATE REMOVED)  5 cits from other d.b.'s
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* Saved, should you want to see additional records

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=> d que stat l21
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L3             1 SEA FILE=REGISTRY ABB=ON  "DEOXYCHOLIC ACID"/CN
L4             1 SEA FILE=REGISTRY ABB=ON  DIMETHYL-B-CYCLODEXTRIN/CN
L6          1639 SEA FILE=HCAPLUS ABB=ON  ?POLYMER?(W)(?MICROCAPSUL? OR
                 ?LIPOSOM?)
L7            11 SEA FILE=HCAPLUS ABB=ON  L6 AND (IMMUNOSTIM? OR ?IMMUN?(3A)?RES
                 PONS?)
L8            23 SEA FILE=HCAPLUS ABB=ON  L6 AND (L1 OR ?POLYORNITHINE? OR
                 ?VITAMIN? OR ?CATION?(3A)(?COPOLYMER? OR ?SURFACT?))
L9             1 SEA FILE=HCAPLUS ABB=ON  L6 AND (?CLATHRATE? OR ?COMPLEX?(W)?AG
                 ENT? OR ?CETRIMIDES? OR S(W)?LAYER?(W)?PROTEIN? OR METHYL?(W)?G
                 LUCAMIN?)
L10           11 SEA FILE=HCAPLUS ABB=ON  L6 AND (?MUCOUS? OR ?MUCOSAL? OR
                 ?INTRANASAL?)
L11           16 SEA FILE=HCAPLUS ABB=ON  L6 AND (?POLYACRYLIC?(W)?ACID?)
L13           91 SEA FILE=HCAPLUS ABB=ON  L6 AND (?POSITIVE?(W)?CHARGE? OR
                 ?MOLECULAR?(W)?WEIGHT?)
L14            2 SEA FILE=HCAPLUS ABB=ON  L13 AND (?FATTY?(W)?ACID? OR ?CYCLODEX
                 TRIN?)
L15           55 SEA FILE=HCAPLUS ABB=ON  L7 OR L8 OR L9 OR L10 OR L11 OR L14
L16            1 SEA FILE=HCAPLUS ABB=ON  L15 AND ?MAMMAL?
L17           15 SEA FILE=HCAPLUS ABB=ON  L15 AND (?VACCINE? OR ?BACTERIUM?)
L18            2 SEA FILE=HCAPLUS ABB=ON  L15 AND (?POLYAMINO? OR ?WATER?(W)?SOL
                 UBL?(W)?VITAMIN?)
L19            1 SEA FILE=HCAPLUS ABB=ON  L15 AND (L3 OR ?DEOXYCHOLIC?(W)?ACID?
                 OR L4 OR ?DIMETHYL?(W)B(W)?CYCLODEXTRIN? OR ?POLY?(W)L(W)?
                 LACTIDE?)
L20           55 SEA FILE=HCAPLUS ABB=ON  L15 OR L16 OR L17 OR L18 OR L19
L21           10 SEA FILE=HCAPLUS ABB=ON  L20 AND (?IMMUNOSTIM? OR ?IMMUN?(W)?RE
                 SPONS?)

=> d ibib abs l21 1-10

L21  ANSWER 1 OF 10  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2004:317019  HCAPLUS
DOCUMENT NUMBER:          141:230410
TITLE:                    Oral Plasmid DNA Delivery Systems for Genetic
                          Immunisation
AUTHOR(S):                Somavarapu, S.; Bramwell, V. W.; Alpar, H. O.
CORPORATE SOURCE:         Cent. Drug Delivery Res., Sch. Pharm., Univ. London,
                          London, WC1N 1AX, UK
SOURCE:                   Journal of Drug Targeting (2003), 11(8-10), 547-553
                          CODEN: JDTAEH; ISSN: 1061-186X
PUBLISHER:                Taylor & Francis Ltd.
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   The use and optimization of plasmid DNA delivery systems for the purposes
     of eliciting transgene specific immune responses to
     orally administered DNA encoded antigen represents a significant
     challenge.  Here, we have outlined a multicomponent polymer modified
     liposomal delivery system that offers potential for oral administration of
     plasmid DNA.  It is shown that the polymer/liposome
     formulated DNA is able to elicit markedly enhanced transgene specific
     cytokine production following in vitro restimulation of splenocytes with
     recombinant antigen.  This is discussed with reference to recent publications
     and the potential of plasmid DNA delivery systems for the purposes of
     genetic immunization, as reported in selected literature, is assessed.
REFERENCE COUNT:          45    THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS
```

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:100522 HCAPLUS
DOCUMENT NUMBER: 140:144697
TITLE: Nanoparticle **vaccines** comprising antigen encapsulated targeting molecule-displaying **polymerized liposome**
INVENTOR(S): Nagy, Jon O.; Bargatze, Robert F.; Jutila, John W.; Cutler, Jim E.; Glee, Pati M.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 30 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004022840	A1	20040205	US 2003-413607	20030414
PRIORITY APPLN. INFO.:			US 2002-372631P P	20020412

AB The present invention relates to nanoparticle **vaccines** comprised of a carrier, particularly polymerized lipids, having multiple copies of an antigen or combinations of different antigens displayed on the carrier. Such antigen-displaying nanoparticles may also display a targeting mol. on its surface in order to direct it to a specific site or cell type to optimize a desired **immune response.** The present invention also relates to encapsulating an antigen or combinations of different antigens within such nanoparticles, with or without a targeting mol. displayed on its surface. The antigens used in this invention are effective to produce an **immune response** against a variety of pathol. conditions.

L21 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:912985 HCAPLUS
DOCUMENT NUMBER: 139:386414
TITLE: Vinyl **polymer microcapsules** containing biomedical materials
INVENTOR(S): Childs, Ronald F.; Shen, Feng; Wang, Sanju
PATENT ASSIGNEE(S): McMaster University, Can.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003094898	A2	20031120	WO 2003-CA671	20030507
WO 2003094898	A3	20040205		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-377972P P 20020507

AB Biomedical materials are encapsulated in ionically crosslinked polymer capsules, preferably alginate microcapsules. The alginate capsules are then subjected, in a liquid vehicle, to an ethylenically unsatd. monomer and an initiator, to induce polymerization of the unsatd. monomer and thereby enhance the strength of the capsule wall. The microcapsules can be after-treated with, for example, polylysine and alginate to reduce their tendency to elicit an **immune response** if implanted in an animal. The invention extends to the microcapsules and also to a method of treating or preventing medical conditions in an animal particularly a human, by implanting microcapsules containing biomedical material in the animal. Microcapsules were prepared by photopolymn. of Irgacure 2959, acrylic acid, N-vinylpyrrolidone in saline and Ca microcapsules in a culture dish. Then the capsules were washed with CaCl2 and treated with polylysine and alginate.

L21 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:130760 HCAPLUS

DOCUMENT NUMBER: 138:242981

TITLE: Enhanced adjuvantic property of **polymerized liposome** as compared to a phospholipid liposome

AUTHOR(S): Jeong, Jong-Moon; Chung, Yong-Chan; Hwang, Ji-Hwan

CORPORATE SOURCE: Department of Biology, The University of Suwon, Suwon, 445-743, S. Korea

SOURCE: Journal of Biotechnology (2002), 94(3), 255-263
CODEN: JBITD4; ISSN: 0168-1656

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Liposome, although intensively researched as **vaccine** or drug delivery vehicle, has been of limited use due to the low and unpredictable long-term stability. In order to overcome such problems, **polymd . liposome** (PL) that could initiate polymerization under very mild reaction condition was examined and compared to a conventional liposome. The polymerizable lipid, 1,2-bis[12-(lipoyloxy)dodecanoyl]-sn-glycero-3-phosphorylcholine (DLL), was synthesized according to the literature, and 1,2-distearoyl-sn-glycero-3-phosphorylcholine (DSPC) was used as the conventional lipid counterpart. Polymerization of liposome was as easy and convenient as just shaking in pH 7.4 buffer. The protein encapsulation efficiency of DLL was higher than that of DSPC, and its protein release rate was lower. IgG activity examined after i.p. injection of antigen encapsulated by either DLL or DSPC showed that ca. 2 times as much antibody was formed by DLL-encapsulated lysozyme compared with DSPC-encapsulated form. The reasons for the superior adjuvantic properties of DLL and its future application as a drug delivery system are briefly discussed.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:900420 HCAPLUS

DOCUMENT NUMBER: 134:61523

TITLE: Adjuvant-containing **polymerized liposomes** for oral, **mucosal** or

intranasal vaccination
INVENTOR(S): Dean, Hansi J.; Brey, Robert N.; Bolotin, Elya; Bucher, Denise; Frenchick, Patrick J.
PATENT ASSIGNEE(S): Endorex Corporation, USA
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000076476	A1	20001221	WO 2000-US15914	20000609

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-138618P P 19990611

AB The present invention encompasses novel liposomal compns., particularly comprising **polymerizable liposomes**, which are useful for the oral, **intranasal** and/or **mucosal** delivery of **vaccines.** In particular, the present invention relates to pharmaceutical compns. comprising **polymerizable liposomes**; antigens for inducing an **immune response**; adjuvants for enhancing an **immune response** to antigens; and stabilizing compds. for preserving the primary, secondary and tertiary structure of peptide and protein antigens during preparation and storage. These compns. may optionally comprise a targeting ligand. In addition, the invention relates to methods for forming liposomes by controlling the content of polymers in the lipid bilayer membrane. The invention still further relates to the use of the liposomal composition utilizing **polymerized liposomes** as, or in, pharmaceutical compns. for oral delivery of a variety of diagnostic or therapeutic agents, including drugs and **vaccines.** The liposomes of the present invention provide increased stability in the gastrointestinal (G-I) tract, and provide for more effective **vaccines** that can be administered to humans and animals by the oral route. Further, the liposomal composition provide for more effective **vaccines** that can be administered by the **intranasal** route. Examples are given for preparation and anal. of **polymerized liposomes** for oral administration and containing, e.g., tetanus antigen.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:331778 HCAPLUS
TITLE: Oral and **mucosal** delivery of macromolecular drugs and **vaccines.**
AUTHOR(S): Brey, Robert N.
CORPORATE SOURCE: Endorex Corporation, Lake Forest, IL, 60045, USA
SOURCE: Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 (2000), MEDI-172.

American Chemical Society: Washington, D. C.
CODEN: 69CLAC
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Small unilamellar liposomes can deliver complex mol. drugs and **vaccines** through **mucosal** epithelia, if appropriate properties are engineered into liposome structures. These factors include surface charge, size, and resistance to degradation by enzymes. Liposomes constructed from polymerizable lipids have properties that are distinct from more fluid membrane structures. **Polymerized liposomes** demonstrate increased stability under a variety of conditions. These stable liposomes behave as inert particles and can be taken up by pinocytotic cells, having enhanced ability to deliver proteins intact across **mucosal** surfaces. Intragastric intubation of mice with **polymerized liposomes** results in bioavailability and bioactivity of human growth hormone or insulin in serum. Similarly, when applied **intranasally** in **polymerized liposomes**, extremely small amts. of antigens induce potent **immune responses** that are comparable to equivalent doses of **vaccine** administered by i.m. injection. These vehicles may be exploited most efficiently for **vaccines** and a variety of protein or nucleic acid drugs.

L21 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:489140 HCAPLUS
TITLE: Noval **polymerized liposomes** as potential delivery vehicles for oral **vaccines**
AUTHOR(S): Chen, H.; Torchilin, V.; Langer, R.
CORPORATE SOURCE: Merck and Co., Inc., West Point, PA, 19486, USA
SOURCE: Book of Abstracts, 214th ACS National Meeting, Las Vegas, NV, September 7-11 (1997), PMSE-349. American Chemical Society: Washington, D. C.
CODEN: 64RNAO
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Liposomes are spherical vesicles made of lipid mols. Liposomes have many advantages as **vaccine** delivery vehicles. They are made of natural components, and they are known to potentiate **immune responses** to encapsulated **vaccines.** The susceptibility of conventional liposomes to the harsh environment in the gastrointestinal tract, such as bile salt dissoln. and enzymic degradation, however, has largely limited the application of these vesicles as oral **vaccine** delivery vehicles. In attempt to increase liposome stability so that they can be used for oral vaccination, **polymerized liposomes** were prepared Work conducted in our laboratory indicates that **polymerized liposomes** show significantly improved stability compared to conventional liposomes. At the same time, **polymerized liposome** surfaces were also modified with targeting mols. for Peyer's patches, the major components of the **mucosal** lymphatic system located in small intestine. This modification was shown to result in significantly improved liposome bioavailability by the lymphatic system. All of the results point to a great potential for these noval **polymerized liposomes** as oral **vaccine** carriers.

L21 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:361702 HCAPLUS
DOCUMENT NUMBER: 126:326443
TITLE: Genetic vector expression system for vaccination of fish by immersion, injection, or spray and fish

protection from viral and bacterial diseases
INVENTOR(S): Davis, Heather L.
PATENT ASSIGNEE(S): Ottawa Civic Hospital, Can.
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 773295	A2	19970514	EP 1996-117859	19961107
EP 773295	A3	19990616		
R: DK, FI, FR, GB, SE				
US 5780448	A	19980714	US 1996-740805	19961104
CA 2189831	AA	19970508	CA 1996-2189831	19961107
NO 9604713	A	19970509	NO 1996-4713	19961107
JP 09295291	A2	19971104	JP 1996-295565	19961107
EP 839913	A2	19980506	EP 1997-119273	19971104
EP 839913	A3	19990616		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6180614	B1	20010130	US 1998-115423	19980714

PRIORITY APPLN. INFO.:

US 1995-6290P	P	19951107
US 1996-740805	A	19961104
EP 1996-117859	A	19961107

AB The present invention relates to methods of immunization of aquaculture species by introducing DNA expression systems into the aquaculture species. Such DNA expression systems preferably include DNA sequences encoding polypeptides of pathogens of species of aquaculture. The present invention also relates to methods of administration of DNA expression systems into aquaculture. Such methods include injection, spray, and immersion techniques. The methods of this invention are useful for prophylactic vaccination or therapeutic immunization of fin-fish, shellfish, or other aquatic animals against infectious diseases. Examples include plasmid vectors for expression of antigens such as G glycoprotein, N nucleoprotein VP2, VP3, or IROMP protein of viral hemorrhagic septicemia virus, infectious pancreatic necrosis virus, or Aeromonas salmonicida.

L21 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:970078 HCAPLUS
DOCUMENT NUMBER: 124:97350
TITLE: Xenobiotic polymers as **vaccine** vehicles
AUTHOR(S): Payne, Lendon G.; Jenkins, Sharon A.; Andrianov, Alexander; Langer, Robert; Roberts, Bryan E.
CORPORATE SOURCE: Virus Research Institute, Inc., Cambridge, MA, USA
SOURCE: Advances in Experimental Medicine and Biology (1995), 371B, 1475-80
CODEN: AEMBAP; ISSN: 0065-2598
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The ability to vary the polyphosphazene concentration in the microcapsules, alter the side chains on the polymer, and coat microcapsules with poly(L-lysine) makes it possible to formulate microcapsules that will release antigens with pulsatile and/or sustained release kinetics. The manipulability of this polymer system combined with the very gentle conditions for gelation and microcapsule formation make this polymer system a strong candidate for

developing single dose oral **vaccines** which elicit both a **mucosal** and a systemic **immune response.** In addition, microencapsulation with synthetic polymers such as polyphosphazenes may be a means for presenting antigens with a simple depot effect after parenteral injection.

L21 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:185817 HCAPLUS
DOCUMENT NUMBER: 112:185817
TITLE: Potentiating an **immune response** by microencapsulation
INVENTOR(S): Tice, Thomas T.; Eldridge, John H.; Gilley, Richard M.; Stass, Jay K.
PATENT ASSIGNEE(S): UAB Research Foundation, USA; Southern Research Institute
SOURCE: Eur. Pat. Appl., 37 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 333523	A2	19890920	EP 1989-302746	19890320
EP 333523	A3	19900131		
EP 333523	B1	19960717		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 5075109	A	19911224	US 1988-169973	19880318
IL 89602	A1	19930708	IL 1989-89602	19890314
WO 8908449	A1	19890921	WO 1989-US1083	19890316
W: AU, DK, JP, KR, SU				
AU 8933433	A1	19891005	AU 1989-33433	19890316
AU 633483	B2	19930204		
JP 03503892	T2	19910829	JP 1989-503679	19890316
JP 2521827	B2	19960807		
IN 169330	A	19910928	IN 1989-MA205	19890316
RU 2127118	C1	19990310	RU 1989-4831769	19890316
RU 2250102	C2	20050420	RU 1998-121515	19890316
CA 1340692	A1	19990803	CA 1989-594142	19890317
CN 1043442	A	19900704	CN 1989-103098	19890318
CN 1070697	B	20010912		
ZA 8902103	A	19900131	ZA 1989-2103	19890320
EP 706792	A1	19960417	EP 1995-112851	19890320
EP 706792	B1	20031112		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 140386	E	19960815	AT 1989-302746	19890320
ES 2088890	T3	19961001	ES 1989-302746	19890320
EP 1181929	A2	20020227	EP 2001-128930	19890320
EP 1181929	A3	20030423		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 253901	E	20031115	AT 1995-112851	19890320
ES 2210268	T3	20040701	ES 1995-112851	19890320
KR 126823	B1	19980401	KR 1989-702165	19891118
DK 9002224	A	19901116	DK 1990-2224	19900917
US 5811128	A	19980922	US 1993-116484	19930907
US 6024983	A	20000215	US 1993-116802	19930907
US 5814344	A	19980929	US 1995-469218	19950606
US 5820883	A	19981013	US 1995-468064	19950606

US 5853763	A	19981229	US 1995-467314		19950606
US 5942252	A	19990824	US 1995-469463		19950606
CN 1308937	A	20010822	CN 2000-133019		20001021
PRIORITY APPLN. INFO.:			US 1988-169973	A	19880318
			US 1986-923159	B2	19861024
			RU 1989-4831769	A3	19890316
			US 1989-325193	B2	19890316
			WO 1989-US1083	A	19890316
			EP 1989-302746	A3	19890320
			EP 1995-112851	A3	19890320
			US 1990-629138	B1	19901218
			US 1993-116484	A1	19930907

AB Biocompatible microcapsules are used to administer bioactive agents such as immune modulators to achieve a pulsatile response as well as **mucosal** and systemic immunity. Absorption of 1- to 10-μm microspheres by Peyer's Patches of the gut-associated lymphoid tissues following oral administration was tabulated for the following (microcapsule material, biodegradability, and absorption given): polystyrene, no, very good; poly(Me methacrylate), no, very good; poly(hydroxybutyrate), yes, very good; poly(DL-lactide) (I), yes, good; **poly(L-lactide)**, yes, good; poly(DL-lactide-co-glycolide), yes, good; cellulose acetate H phthalate, no, none; cellular triacetate, no, none; Et cellulose, no, none. An example was given showing that the immunopotentiation expressed when antigen is administered in I microspheres is not a function of the ability of the microspheres to intrinsically activate the immune system; rather, data are consistent with either a depot effect, targeted delivery of the antigen to antigen-representing accessory cells, or a combination of these 2 mechanisms.

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=> d que stat l23
L1             2 SEA FILE=REGISTRY ABB=ON  POLYORNITHINE/CN
L3             1 SEA FILE=REGISTRY ABB=ON  "DEOXYCHOLIC ACID"/CN
L4             1 SEA FILE=REGISTRY ABB=ON  DIMETHYL-B-CYCLODEXTRIN/CN
L6          1639 SEA FILE=HCAPLUS ABB=ON  ?POLYMER?(W)(?MICROCAPSUL? OR
                 ?LIPOSOM?)
L7            11 SEA FILE=HCAPLUS ABB=ON  L6 AND (IMMUNOSTIM? OR ?IMMUN?(3A)?RES
                 PONS?)
L8            23 SEA FILE=HCAPLUS ABB=ON  L6 AND (L1 OR ?POLYORNITHINE? OR
                 ?VITAMIN? OR ?CATION?(3A)(?COPOLYMER? OR ?SURFACT?))
L9             1 SEA FILE=HCAPLUS ABB=ON  L6 AND (?CLATHRATE? OR ?COMPLEX?(W)?AG
                 ENT? OR ?CETRIMIDES? OR S(W)?LAYER?(W)?PROTEIN? OR METHYL?(W)?G
                 LUCAMIN?)
L10           11 SEA FILE=HCAPLUS ABB=ON  L6 AND (?MUCOUS? OR ?MUCOSAL? OR
                 ?INTRANASAL?)
L11           16 SEA FILE=HCAPLUS ABB=ON  L6 AND (?POLYACRYLIC?(W)?ACID?)
L13           91 SEA FILE=HCAPLUS ABB=ON  L6 AND (?POSITIVE?(W)?CHARGE? OR
                 ?MOLECULAR?(W)?WEIGHT?)
L14            2 SEA FILE=HCAPLUS ABB=ON  L13 AND (?FATTY?(W)?ACID? OR ?CYCLODEX
                 TRIN?)
L15           55 SEA FILE=HCAPLUS ABB=ON  L7 OR L8 OR L9 OR L10 OR L11 OR L14
L16            1 SEA FILE=HCAPLUS ABB=ON  L15 AND ?MAMMAL?
L17           15 SEA FILE=HCAPLUS ABB=ON  L15 AND (?VACCINE? OR ?BACTERIUM?)
L18            2 SEA FILE=HCAPLUS ABB=ON  L15 AND (?POLYAMINO? OR ?WATER?(W)?SOL
                 UBL?(W)?VITAMIN?)
L19            1 SEA FILE=HCAPLUS ABB=ON  L15 AND (L3 OR ?DEOXYCHOLIC?(W)?ACID?
                 OR L4 OR ?DIMETHYL?(W)B(W)?CYCLODEXTRIN? OR ?POLY?(W)L(W)?
                 LACTIDE?)
L20           55 SEA FILE=HCAPLUS ABB=ON  L15 OR L16 OR L17 OR L18 OR L19
L21           10 SEA FILE=HCAPLUS ABB=ON  L20 AND (?IMMUNOSTIM? OR ?IMMUN?(W)?RE
                 SPONS?)
L22            6 SEA L21
L23            5 DUP REMOV L22 (1 DUPLICATE REMOVED)

=> d ibib abs l23 1-5

L23  ANSWER 1 OF 5  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
ACCESSION NUMBER:   2004:268217  BIOSIS
DOCUMENT NUMBER:    PREV200400268893
TITLE:              Oral plasmid DNA delivery systems for genetic immunisation.
AUTHOR(S):          Somavarapu, S.; Bramwell, V. W.; Alpar, H. O. [Reprint
                    Author]
CORPORATE SOURCE:   Sch PharmCtr Drug Delivery Res, Univ London, 29-39
                    Brunswick Sq, London, WC1N 1AX, England
                    oya.alpar@ams1.ulsop.ac.uk
SOURCE:             Journal of Drug Targeting, (2004) Vol. 11, No. 8-10, pp.
                    547-553. print.
                    ISSN: 1061-186X (ISSN print).
DOCUMENT TYPE:      Article
LANGUAGE:           English
ENTRY DATE:         Entered STN: 26 May 2004
                    Last Updated on STN: 26 May 2004
AB   The use and optimisation of plasmid DNA delivery systems for the purposes
     of eliciting transgene specific immune responses to
     orally administered DNA encoded antigen represents a significant
     challenge. Here, we have outlined a multicomponent polymer modified
     liposomal delivery system that offers potential for oral administration of
     plasmid DNA. It is shown that the polymer/liposome
     formulated DNA is able to elicit markedly enhanced transgene specific
```

cytokine production following in vitro restimulation of splenocytes with recombinant antigen. This is discussed with reference to recent publications and the potential of plasmid DNA delivery systems for the purposes of genetic immunisation, as reported in selected literature, is assessed.

L23 ANSWER 2 OF 5 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2004303150 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15203924
TITLE: Oral plasmid DNA delivery systems for genetic immunisation.
AUTHOR: Somavarapu S; Bramwell V W; Alpar H O
CORPORATE SOURCE: Centre for Drug Delivery Research, School of Pharmacy, University of London, UK.
SOURCE: Journal of drug targeting, (2003) 11 (8-10) 547-53. Journal code: 9312476. ISSN: 1061-186X.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200409
ENTRY DATE: Entered STN: 20040624
Last Updated on STN: 20040908
Entered Medline: 20040907

AB The use and optimisation of plasmid DNA delivery systems for the purposes of eliciting transgene specific **immune responses** to orally administered DNA encoded antigen represents a significant challenge. Here, we have outlined a multicomponent polymer modified liposomal delivery system that offers potential for oral administration of plasmid DNA. It is shown that the **polymer/liposome** formulated DNA is able to elicit markedly enhanced transgene specific cytokine production following in vitro restimulation of splenocytes with recombinant antigen. This is discussed with reference to recent publications and the potential of plasmid DNA delivery systems for the purposes of genetic immunisation, as reported in selected literature, is assessed.

L23 ANSWER 3 OF 5 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:98917 BIOSIS
DOCUMENT NUMBER: PREV200400096412
TITLE: **Polymerised liposomes** as adjuvants for nasal delivery.
AUTHOR(S): Patel, B. P. [Reprint Author]; Kohli, A. K. [Reprint Author]; Somavarapu, S. [Reprint Author]; Alpar, H. O. [Reprint Author]
CORPORATE SOURCE: Centre for Drug Delivery Research, School of Pharmacy, University of London, 29-39 Brunswick Square, London, WC1N 1AX, UK
SOURCE: Journal of Pharmacy and Pharmacology, (September 2003) Vol. 55, No. Supplement, pp. S.55-S.56. print.
Meeting Info.: Science Proceedings of the British Pharmaceutical Conference. Harrogate, England, UK. September 15-17, 2003.
CODEN: JPPMAB. ISSN: 0022-3573.
DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 18 Feb 2004
Last Updated on STN: 18 Feb 2004

L23 ANSWER 4 OF 5 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 2001:39970 BIOSIS
DOCUMENT NUMBER: PREV200100039970
TITLE: Systemic and **mucosal immune responses** to **mucosal** vaccination with antigen in **polymerized liposomes.**
AUTHOR(S): Fast, D. [Reprint author]; Dean, H. [Reprint author]; Bolotin, E. [Reprint author]; Bucher, D. [Reprint author]; Markovic, D. [Reprint author]; Keck, K. [Reprint author]; Brey, R. [Reprint author]
CORPORATE SOURCE: Endorex Corp., Lake Forest, IL, USA
SOURCE: FASEB Journal, (April 20, 2000) Vol. 14, No. 6, pp. A1203. print.
Meeting Info.: Joint Annual Meeting of the American Association of Immunologists and the Clinical Immunology Society. Seattle, Washington, USA. May 12-16, 2000.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 17 Jan 2001
Last Updated on STN: 12 Feb 2002

L23 ANSWER 5 OF 5 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 2000:290928 BIOSIS
DOCUMENT NUMBER: PREV200000290928
TITLE: Targeted **polymerized liposomes** for improved drug delivery.
AUTHOR(S): Langer, Robert S. [Inventor, Reprint author]; Chen, Hongming [Inventor]
CORPORATE SOURCE: Newton, MA, USA
ASSIGNEE: Massachusetts Institute of Technology
PATENT INFORMATION: US 6004534 December 21, 1999
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 21, 1999) Vol. 1229, No. 3. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Jul 2000
Last Updated on STN: 7 Jan 2002

AB The present invention relates to targeted **polymerized liposomes** for oral and/or **mucosal** delivery of **vaccines**, allergens and therapeutics. In particular, the present invention relates to **polymerized liposomes** which have been modified on their surface to contain a molecule or ligand which targets the **polymerized liposome** to a specific site or cell type in order to optimize the **immune response** to the encapsulated antigen or the efficacy of the encapsulated drug.